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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,837	09/29/2003	Nick M. Mitchell	YOR920030039	2533
34663 7590 08/10/2007 MICHAEL J. BUCHENHORNER 8540 S.W. 83 STREET MIAMI, FL 33143			EXAMINER KENDALL, CHUCK O	
			ART UNIT 2192	PAPER NUMBER
			MAIL DATE 08/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/673,837	Applicant(s) MITCHELL ET AL.	
	Examiner Chuck O. Kendall	Art Unit 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>01/10/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to Application filed 09/29/03.
2. Claims 1 – 11 have been examined.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1 – 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kolodner et al. US 6,675,379 B1.

Regarding claims 1 and 10, a method for identifying a set of objects in a target application program, comprising:

- a) receiving a plurality of samples of one or more object reference graphs, wherein each object reference graph comprises live objects and their references (5:65 - 6:5, see liveness analysis and constraint graph);
- b) deriving a plurality of data structures from the samples (13:20 – 30);
- c) determining a plurality of properties of each of the live objects in relation to data structures over time (13: 20 – 30); and

d) combining the plurality of the properties of each live object (11:17 – 25).

Regarding claim 2, the method of claim 1 further comprising the step of generating the object reference graph (11:17– 20, see constraint graph).

Regarding claim 3, the method of claim 1, further comprising the step of e) generating a rank (11:15 – 25, see ranges of elements within arrays).

Regarding claim 4, the method of claim 3, further comprising the step of identifying an initial set of highly-ranked candidate objects that are possible causes of at least one object leak, wherein the higher the ranking the smaller the identified set (11:20 – 30, see dead ranges).

Regarding claim 6, the method of claim 1 further comprising a step of identifying suspicious regions that are likely to have leaks within the data structure (11:20 –25, see identify ranges of elements know to be dead points).

Regarding claim 7, the method of claim 6 further comprising a step of determining an expected evolution of the suspicious regions (11:20 – 30).

Regarding claim 8, the method of claim 6 further comprising a step of tracking the actual evolution of the regions as the target application program runs (5:20 – 23,

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see execution).

Regarding claim 9, the method of claim 1 wherein step d) further comprises combining structural and temporal properties of the object reference graph (5:62 – 67, see constraint graph).

Regarding claim 11, an information processing system for identifying a set of objects in a target application comprising:

an analyzer for ranking and generating co-evolving regions (4:10 – 20, see liveness analysis); and

a tracing agent for attaching to the target application (4:28 – 33, see tracing).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kolodner et al. US 6,675,379 B1 in view of Andreasson US 2004/0073764 A1.

Regarding claim 5, Kolodner discloses all the claimed limitations as applied in claim 1 above. Kolodner doesn't expressly disclose using a mixture model that combines the plurality of properties in a non-linear manner. However, Andreasson in an analogous art and similar configuration of memory management (see abstract) discloses using linear and non linear approximation in order to approximate the value function for continuous states [0011]. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kolodner and Andreasson because it would enable linear approximation of function values as suggested by Andreasson.

Correspondence information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Kendall whose telephone number is 571-272-3698. The examiner can normally be reached on 10:00 am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ck.

Chuck Kendall 8/02/07